Before the
Federal Communications Commission
Washington, D.C. 20554

In the matter of	)	
	)	
FCC 05-80		
Spectrum Needs of	)	WET Docket No. 05-157
Emergency Response Providers	)	
	)	

To: The Commission

Comments of the Michigan Department of Information Technology
Representing the Michigan Public Safety Communications System

Michigan Public Safety
Communications System

Michigan Department of
Information Technology

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1. The Michigan Department of Information Technology, representing the Michigan Public Safety Communications System (MPSCS) comprised of 19 state agencies and 238 local agencies, welcomes the opportunity to comment on current and future public safety agency spectrum requirements.

2. The State of Michigan shares an extensive border with Canada as well as the adjoining states of Ohio, Indiana, and Wisconsin. We must conform to frequency coordination requirements established by the Federal Communications Commission and administered by regional frequency coordinators and regional frequency

advisory committees (FAC's). These regions include regions 21, 54, 45, 14 and 33 representing Michigan, the Southern Lake Michigan Area, Wisconsin, Indiana, and Ohio.

3. In addition, a major portion of the State lies within 140 KM (87 miles) of the international border with Canada. This includes the metropolitan Detroit area as well as several other cities. We must also conform to frequency requirements established by international treaties or agreements with Canada.

4. Michigan has constructed one of the largest and most advanced statewide communications systems in this country on NPSPAC channels within the frequency constraints established by the regional FAC's and Canadian agreements. This system provides reliable communications for over 20,000 users representing a wide variety of federal, state, county, city, township, and tribal agencies scattered throughout the 58,000 square miles of Michigan.

5. The statewide system is experiencing continuing significant growth with new agencies joining almost daily. One main concern of these agencies is adequate coverage in their operational area; especially in-building coverage for hand held radios. Providing such coverage usually requires additional sites and frequencies. Finding additional available frequencies within the NPSPAC band (821-823/866-869 MHZ) is becoming a significant problem, especially in the Canadian border areas. This is because the Canadian agreements significantly reduce the amount of unrestricted spectrum available in border areas as spectrum must be shared between the two countries.

6. The pending restructuring of the 800 MHZ band will free additional frequencies for public safety use. However, even the additional spectrum will be insufficient with the increasing demand for spectrum. Further exacerbating the problem will be the requirements for additional data channels for computer aided dispatch, remote access to various criminal record and image databases, location and tracking technologies, and other advanced applications requiring high speed data.

7. The increasing demand for interoperability is another force driving the need for additional spectrum. Use of the 800 MHZ spectrum to allow compatible interface to wide area systems in increasing daily. We have already experienced first hand situations in the Detroit area that mandated unique frequency exchanges in order to provide adequate channels to several agencies.

8. The 700 MHZ frequencies set aside for public safety are being held hostage by broadcast interests and there seems little likelihood the channels will be available in the near term. We urge the FCC to consider the urgent needs of public safety agencies a priority and to expedite the availability of the 700 MHZ public safety band.

9. Even as we have been adding frequencies at 800 MHZ we have been canceling licenses for no longer used frequencies at 42 MHZ and within the VHF band. There are no longer used frequencies that could be used by agencies seeking additional spectrum. However, current FCC policy on frequency givebacks is inconsistent and arbitrary. For example, we can cancel a license with little effort and free all the associated frequencies for reassignment at no cost. However, to modify a license to keep one currently licensed frequency and return all others on the license requires a coordination fee (typically, a minimum of $100) and significant effort in filing applications for modifications. This is obviously a workload and financial dis-incentive for license holders to return unused channels for reassignment.

10, An additional factor that needs consideration is the FCC's approval of Broadband over Power Line (BPL) technology. Despite manufacturer's assurances otherwise, we believe this technology threatens the usability of the spectrum below 80 MHZ. Users of the spectrum below 80 MHZ may be forced to migrate to higher frequencies due to the increasing interference experienced from nearby and remote BPL systems.

11. The State's Emergency Management Division continues to depend on high frequency single sideband equipment for medium and long range communications in emergency situations. Widespread implementation of BPL is likely to render that equipment useless, placing even more load on the statewide 800 MHZ network during emergencies. Our only recourse is to add additional system capacity, which requires additional frequencies.

12. We are also concerned about the Michigan Department of Natural Resources (MDNR) 44 MHZ Automatic Vehicle Location system. This system provides tracking of MDNR enforcement officers in remote and unpopulated areas though out the state. Interference to this system would affect a vital support facility for these officers.

13. Refarming and implementation of narrow bandwith technologies are positive steps. However, agencies must be given sufficient time to amortize the cost of existing equipment, and budget for new narrow bandwidth equipment. This is especially critical at this time as state and local government agencies face severe budgetary constraints and reduced funding. Manufacturers have had little incentive to provide narrow band equipment at reasonable prices. As long as the implementation date remains flexible, there is little impetus to convert existing systems. We urge the FCC to take a firm stand on an implementation date, and follow through with appropriate incentives and penalties for non-conformance.

14. The other side of this coin is that higher data rates are likely to require greater bandwidth channels. There should be flexibility in the regulations to allow consolidation of adjacent channels in order to provide sufficient bandwidth for higher data rates.

15. The FCC has made significant errors in the past regarding mixing of incompatible system technologies. The 800 MHZ rebanding is an example of the costly remedy of such a mistake. We expect the commission to carefully and thoroughly consider all aspects of an emerging technology before allocating spectrum adjacent to public safety channels.

16. While the 4.9 GHz band provides additional public safety spectrum, it will be most useful in metropolitan areas. It is unlikely to be useful at a reasonable cost in sparsely populated or rural areas. For those areas, we feel that spectrum adjacent to the existing public safety spectrum would be most useful. It would also facilitate the use of existing equipment for multiple purposes thus reducing the financial burden on local and state governments.

17. We urge the FCC to expedite availability of the 700 MHZ spectrum presently allocated to public safety, and to consider significant expansion of public safety channels into adjacent 700 MHZ spectrum.

18. One area the Commission specifically seeks input upon is the use of commercial services to provide emergency communications. We recognize that the commercial services have revolutionized the communications technologies

available to the public. However, those services still remain vulnerable to several critical factors, namely loss of commercial power and user overload in affected areas of an emergency. While those problems can be addressed with the addition of temporary facilities, that implementation takes time. In the event of a widespread emergency, it could require several days to provide backup power sources and cellsites-on-wheels (COW's) to an affected area. In the interim, first responders must have immediately available communications facilities.

19. Our own experience with the widespread power blackout of several years ago clearly demonstrated the value of having an independent, fully backed up communications system which functions through all phases of an emergency. Our statewide system immediately switched to backup power sources in affected areas and continued to function without interruption over the full period of the emergency. During the initial hours of that emergency, most commercial systems were either off the air due to lack of back up power sources or were critically overloaded by users.

20. Until the commercial services provide adequate in-place infrastructure to insure continuously available and adequate emergency communications capacity, we must limit our dependence on such systems to a secondary support role. Even in the event such emergency capability is available, the services provided must meet the unique operational requirements of our agencies.

21. The FCC must consider the future needs of public safety in two key areas, interoperability and high-speed data. Both of these will require significant amounts of additional spectrum. The need will be especially critical in areas where limited spectrum is available due to border agreements that require sharing spectrum with adjoining countries.